Task-1

```sql
CREATE TABLE LOCATION (
LocationCode char(3),
LocationName varchar(50),
CONSTRAINT LOCATION_PK PRIMARY KEY(LocationCode));

CREATE TABLE ROUTE (
RouteId char(3),
RouteDesc varchar(200),
SourceLocationCode char(3),
DesLocationCode char(3),
CONSTRAINT Route_PK PRIMARY KEY(RouteID),
CONSTRAINT Route_FK1 FOREIGN KEY(SourceLocationCode) REFERENCES
LOCATION(LocationCode),
CONSTRAINT Route_FK2 FOREIGN KEY(DesLocationCode) REFERENCES
LOCATION(LocationCode));

create table MULTIPLESTOPOVERS(
RouteID char(3),
Locationcode char(3),
CONSTRAINT MULTIPLESTOPOVERS_PK PRIMARY KEY(RouteID,LocationCode),
CONSTRAINT MULTIPLESTOPOVERS_FK1 FOREIGN KEY(LocationCode) REFERENCES
LOCATION(LocationCode),
CONSTRAINT MULTIPLESTOPOVERS_FK2 FOREIGN KEY(RouteID) REFERENCES
ROUTE(RouteID));

create table CRUISE (
Cruiseid char(3),
cruiseName varchar(30),
NumOfDays varchar(3),
RouteID char(3),
primary key (cruiseid),
CONSTRAINT CRUISE_FK FOREIGN KEY(RouteID) REFERENCES Route(RouteID));

create table SCHEDULE (
ScheduleId char(4),
startdate date,
MaxCapacity varchar(3),
cruiseid char(3),
primary key(scheduleid),
CONSTRAINT SCHEDULE_FK FOREIGN KEY(cruiseid) REFERENCES CRUISE(Cruiseid));
```

```sql
create table TOUR(
cruiseid char(3),
tourcode char(3),
tourname varchar(25),
tourcost Number(8,2),
tourtype varchar(20),
primary key(cruiseid,tourcode),
CONSTRAINT TOUR_FK FOREIGN KEY(cruiseid) REFERENCES CRUISE(Cruiseid));


create table STAFF (
staffid char(3),
staffname varchar(20),
managerid char(3),
position varchar(20),
StaffPay Number(8,2),
primary key(staffid)
-- CONSTRAINT STAFF_FK FOREIGN KEY(managerid) REFERENCES
STAFF(LocationCode),
);




create table ROSTER (
ScheduleId char(4),
StaffId char(3),
StartDateTime date,
EndDateTime date,
primary key (ScheduleID, Staffid),
CONSTRAINT Roster_FK1 FOREIGN KEY(ScheduleId) REFERENCES
SCHEDULE(ScheduleId),
CONSTRAINT Roster_FK2 FOREIGN KEY(StaffId) REFERENCES STAFF(StaffId)
);




create table QUALIFICATIONS (
```

```sql
staffid char(3),
skillname varchar(20),
primary key(staffid, skillname),
CONSTRAINT Qualifications_FK FOREIGN KEY(StaffId) REFERENCES STAFF(StaffId)
);


create table MODEL (
modelid char(3),
modelname varchar(15),
modelcapacity varchar(5),
primary key(modelid));


create table VESSEL (
vesselid char(3),
vesselname varchar(20),
vpurchaseyear varchar(5),
modelid char(3),
primary key(vesselid),
CONSTRAINT VESSEL_FK FOREIGN KEY(modelid) REFERENCES MODEL(modelid));

create table BOOKING (
vesselid char(3),
cruiseid char(3),
fromdate date,
todate date,
primary key(vesselid, cruiseid),
CONSTRAINT BOOKING_FK1 FOREIGN KEY(vesselid) REFERENCES VESSEL(vesselid),
CONSTRAINT BOOKING_FK2 FOREIGN KEY(cruiseid) REFERENCES CRUISE(cruiseid)
);

create table SERVICEDOCK(
servicedockid char(4),
servicedockname varchar(30),
primary key(servicedockid));


Create Table SERVICE(
VesselID varchar(4),
ServiceDockID varchar(4),
ServiceDate date,
Primary Key (VesselID, ServiceDockID),
```

```
Foreign key (VesselID) References VESSEL(VesselID),
Foreign key (ServiceDockID) References SERVICEDOCK(ServiceDockID)
);




insert into LOCATION values('L01','Australia');
insert into LOCATION values('L02','America');
insert into LOCATION values('L03','Switzerland');
insert into LOCATION values('L04','India');
insert into LOCATION values('L05','Sri Lanka');
insert into LOCATION values('L06','Taiwan');
insert into LOCATION values('L07','Japan');
insert into LOCATION values('L08','Egypt');
insert into LOCATION values('L09','Pakistan');
insert into LOCATION values('L10','Maldives');
insert into LOCATION values('L11','Croatia');

insert into ROUTE values('R01','The cruise is 11 days and 10 nights, from Hobart to
Hobart','L01','L01');
insert into ROUTE values('R02','The cruise is 10 days and 9 nights, from Pacific Guatemala to
Panama Caribbean coast','L02','L02');
insert into ROUTE values('R03','The cruise is 15 days and 14 nights, from St Moritz to
Zermatt','L03','L03');
insert into ROUTE values('R04','The cruise is 11 days and 10 nights, from Delhi to
Kerala','L04','L04');
insert into ROUTE values('R05','The cruise is 12 days and 11nights, from Colombo to
Hambantota','L05','L05');
insert into ROUTE values('R06','The cruise is 20 days and 19 nights, from Kaohsiung to
Keelung','L06','L06');
insert into ROUTE values('R07','The cruise is 16 days and 15 nights, from Naze to
Tokyo','L07','L07');
insert into ROUTE values('R08','The cruise is 17 days and 16 nights, from Edfu to Kom
Ombo','L08','L08');
insert into ROUTE values('R09','The cruise is 18 days and 17 nights, from Kemari to
Gawadar','L09','L09');
insert into ROUTE values('R10','The cruise is 18 days and 17 nights, from Baros to
Joali','L10','L10');
```

```sql
insert into ROUTE values('R11','The cruise is 18 days and 17 nights, from Rab to Istria','L11','L11');


insert into MULTIPLESTOPOVERS values('R01','L01');
insert into MULTIPLESTOPOVERS values('R02','L02');
insert into MULTIPLESTOPOVERS values('R03','L03');
insert into MULTIPLESTOPOVERS values('R04','L04');
insert into MULTIPLESTOPOVERS values('R05','L05');
insert into MULTIPLESTOPOVERS values('R06','L06');
insert into MULTIPLESTOPOVERS values('R07','L07');
insert into MULTIPLESTOPOVERS values('R08','L08');
insert into MULTIPLESTOPOVERS values('R09','L09');
insert into MULTIPLESTOPOVERS values('R10','L10');
insert into MULTIPLESTOPOVERS values('R11','L11');


insert into CRUISE values('CO1','Hiraeth Cruise','11','R01');
insert into CRUISE values('CO2','Princess Cruise','10','R02');
insert into CRUISE values('CO3','Carnival Liberty','15','R03');
insert into CRUISE values('CO4','Carnival Breeze','11','R04');
insert into CRUISE values('CO5','Coral Princess','12','R05');
insert into CRUISE values('CO6','Welcome Aboard','20','R06');
insert into CRUISE values('CO7','P&O Cruises','16','R07');
insert into CRUISE values('CO8','Skyscraper Cruises','21','R08');
insert into CRUISE values('CO9','Luxury Cruise','19','R09');
insert into CRUISE values('C10','Staycation Cruise','18','R10');
insert into CRUISE values('C11','OverTheWorld Cruise','23','R11');

insert into SCHEDULE values('SC01','2022-10-21','100','CO1');
insert into SCHEDULE values('SC02','2022-11-10','150','CO2');
insert into SCHEDULE values('SC03','2022-11-12','125','CO3');
insert into SCHEDULE values('SC04','2022-11-15','110','CO4');
insert into SCHEDULE values('SC05','2022-11-27','175','CO5');
insert into SCHEDULE values('SC06','2022-11-28','200','CO6');
insert into SCHEDULE values('SC07','2022-11-30','75','CO7');
insert into SCHEDULE values('SC08','2022-12-15','190','CO8');
insert into SCHEDULE values('SC09','2022-12-30','250','CO9');
insert into SCHEDULE values('SC10',NULL,'170','C10');
insert into SCHEDULE values('SC11',null,'185', 'C11');

insert into TOUR values('CO1','TO1','Hireath Business','300.00','Deluxe');
insert into TOUR values('CO2','TO2','Princess Co Business','400.00','Solo');
insert into TOUR values('CO3','TO3','Travel Business','500.00','Family');
```

```sql
insert into TOUR values('CO4','TO4','Explore Business','200.00','Luxury');
insert into TOUR values('CO5','TO5','Azamara Business','600.00','Adventeruous');
insert into TOUR values('CO6','TO6','Celebrity Business','800.00','General');
insert into TOUR values('CO7','TO7','Cruzify Business','700.00','Sightseeing');
insert into TOUR values('CO8','TO8','SkyFull Business','250.00','Romantic');
insert into TOUR values('CO9','TO9','WCruize Business','200.00','Affordable');
insert into TOUR values('C10','T10','WorldCruize Business','300.00','Buisness');
insert into TOUR values('C11','T11','Sunshine Business','500.00','Buisness');

insert into STAFF values('S01','Shreya Reddy','SO1','Pilot','100');
insert into STAFF values('S02','Candice Lobo','SO2','DJ','200');
insert into STAFF values('S03','Dhavan Mehta','SO3','Host','150');
insert into STAFF values('S04','Shakira Promi','SO4','Instructor','250');
insert into STAFF values('S05','Keval Gandhi','SO5','Waiter','170');
insert into STAFF values('S06','Smriti Kumar','SO6','Assistant','185');
insert into STAFF values('S07','Deepak B','SO7','Housekeeping','225');
insert into STAFF values('S08','Ajay R','SO9','Singer','210');
insert into STAFF values('S09','Arvindh K','S1O','Entertainer','300');
insert into STAFF values('S11','Sandhya Reddy','S11','Crew Member','300');
insert into STAFF values('S12','Madhusudan','S12','Naturalists','300');
insert into STAFF values('S13','Trisha Lokkur','S06','Sport coach','300');
insert into STAFF values('S14','Priyanka P','S07','Guest speaker','300');
insert into STAFF values('S15','Neha Mehta','S13','Clown','300');
insert into STAFF values('S16','Bimal Mehta','S14','Lifeguard','300');


insert into ROSTER values('SC01','S01','2022-10-21 18:30:00','2022-10-24 02:30:00');
insert into ROSTER values('SC02','S02','2022-11-02 18:40:00','2022-11-05 10:10:00');
insert into ROSTER values('SC03','S03','2022-11-05 19:30:00','2022-11-09 12:00:30');
insert into ROSTER values('SC04','S04','2022-11-15 10:20:00','2022-11-18 17:45:00');
insert into ROSTER values('SC05','S05','2022-11-25 11:45:30','2022-11-28 19:00:00');
insert into ROSTER values('SC06','S06','2022-12-10 17:15:00','2022-12-13 22:25:50');
insert into ROSTER values('SC07','S07','2022-12-17 01:00:00','2022-12-20 03:30:00');
insert into ROSTER values('SC08','S08','2022-12-19 02:00:00','2022-12-25 11:30:00');
insert into ROSTER values('SC09','S09','2022-12-25 03:30:35','2022-12-30 04:30:00');
insert into ROSTER values('SC09','S11','2023-01-15 03:30:35','2023-01-30 04:30:00');
insert into ROSTER values('SC10','S12','2023-02-20 03:30:35','2023-02-23 07:30:00');
insert into ROSTER values('SC11','S13','2023-03-11 03:30:45','2023-03-15 10:30:00');
insert into ROSTER values('SC12','S14','2023-04-25 15:30:35','2023-04-30 04:30:00');

insert into QUALIFICATIONS values('S01','Swimming');
insert into QUALIFICATIONS values('S02','Writing');
insert into QUALIFICATIONS values('S03','Speaking');
insert into QUALIFICATIONS values('S04','Hosting');
```

```sql
insert into QUALIFICATIONS values('S05','Dancing');
insert into QUALIFICATIONS values('S06','Singing');
insert into QUALIFICATIONS values('S07','Cooking');
insert into QUALIFICATIONS values('S08','Managing');
insert into QUALIFICATIONS values('S09','Entertaining');
insert into QUALIFICATIONS values('S01','Illusionist');
insert into QUALIFICATIONS values('S01','Chef');
insert into QUALIFICATIONS values('S02','Doctor');


insert into MODEL values('M01','MODEL-100','150');
insert into MODEL values('M02','MODEL-102','120');
insert into MODEL values('M03','MODEL-104','130');
insert into MODEL values('M04','MODEL-106','100');
insert into MODEL values('M05','MODEL-108','125');
insert into MODEL values('M06','MODEL-110','175');
insert into MODEL values('M07','MODEL-112','200');
insert into MODEL values('M08','MODEL-200','130');
insert into MODEL values('M09','MODEL-2001','140');
insert into MODEL values('M10','MODEL-2002','120');


insert into VESSEL values('V01','Diamond','2010','M01');
insert into VESSEL values('V02','Best Cruises','2011','M02');
insert into VESSEL values('V03','Carnival','2012','M03');
insert into VESSEL values('V04','Sky','2010','M04');
insert into VESSEL values('V05','Golden','2015','M05');
insert into VESSEL values('V06','Rider','2007','M06');
insert into VESSEL values('V07','Mignon','2016','M07');
insert into VESSEL values('V08','Happy','2017','M08');
insert into VESSEL values('V09','Voyages','2019','M09');
insert into VESSEL values('V10','LovelyCruise','2021','M10');


insert into BOOKING values('V01','CO1','2022-10-22','2022-11-22');
insert into BOOKING values('V02','CO2','2022-11-20','2022-12-20');
insert into BOOKING values('V03','CO3','2023-01-15','2023-02-20');
insert into BOOKING values('V04','CO4','2023-02-17','2023-03-17');
insert into BOOKING values('V05','CO5','2023-03-5','2023-04-30');
insert into BOOKING values('V06','CO6','2023-04-19','2023-05-22');
```

insert into BOOKING values('V07','CO7','2023-05-07','2023-06-10');
insert into BOOKING values('V08','CO9','2023-06-08','2023-07-8');
insert into BOOKING values('V09','CO9','2023-07-17','2023-08-21');

insert into SERVICEDOCK values('SD01','Dock Mac');
insert into SERVICEDOCK values('SD02','Dock Carnival');
insert into SERVICEDOCK values('SD03','Dock Princess');
insert into SERVICEDOCK values('SD04','Dock Diamond');
insert into SERVICEDOCK values('SD05','Dock BestCruise');
insert into SERVICEDOCK values('SD06','Dock Skies');
insert into SERVICEDOCK values('SD07','Dock TravelSeas');
insert into SERVICEDOCK values('SD08','Dock Happiness');
insert into SERVICEDOCK values('SD09','Dock AZCruize');

insert into SERVICE values('V01','SD01','2022-10-23');
insert into SERVICE values('V02','SD02','2022-11-24');
insert into SERVICE values('V03','SD03','2022-11-15');
insert into SERVICE values('V04','SD04','2022-12-04');
insert into SERVICE values('V05','SD05','2023-01-11');
insert into SERVICE values('V06','SD06','2023-02-18');
insert into SERVICE values('V07','SD07','2023-03-31');
insert into SERVICE values('V08','SD08','2023-04-14');
insert into SERVICE values('V09','SD09','2023-04-21');

Task-2

select TourName, TourType, concat('$ ',tourcost) as TourCost FROM tour
order by tourcost desc;

Task-3

select VesselId,FromDate,ToDate, datediff(day, todate, fromdate) AS date_difference from
booking;

Task-4

```sql
select vesselid, vesselname, vessel.vpurchaseyear, vessel.modelid
from vessel, model
where vessel.modelid=model.modelid
and model.modelname like 'Model-200%'
and vessel.vpurchaseyear > '2015';
```

Task-5
```sql
select distinct vessel.vesselname
from vessel join booking
using (vesselid)
where datediff(todate, fromdate) > 10
and vpurchaseyear between 2015 and 2020;
```

Task-6
```sql
select modelname, modelcapacity
from model
where modelid in (select modelid from vessel where vpurchaseyear>'2018');
```

Task-7
```sql
select distinct s1.staffname, s2.staffname
from staff s1, staff s2, roster
where s1.staffid=s2.managerid
and roster.enddatetime>'1900';
```

Task-8
```sql
select modelcapacity as number_of_cruises, vesselname as vessel_name
from vessel v,model m
where v.modelid=m.modelid
order by modelcapacity desc;
```

Task-9
```sql
select cruise.cruiseid, cruisename, numofdays, routeid
from cruise, schedule
where cruise.cruiseid=schedule.cruiseid
and schedule.startdate is null;
```

Task-10
```sql
Select CruiseName, t.TourCode, TourName, Count(c.CruiseId) as TotalAmountOfCruise,
TourCost, c.NumOfDays*t.TourCost*1.1 as TotalTourCostWithTax
```

```
from CRUISE c join
TOUR t
On c.CruiseID=t.CruiseId
Where c.NumOfDays*t.TourCost*1.1>3000
group by t.TourCode;
```

Task-11

```
select s.StaffID, s.StaffName, count(SkillName) as NumberOfSkills
from QUALIFICATIONS q
join staff s
on s.StaffID = q.StaffID
Group by StaffID
Having count(SkillName)>=2;
```

Task-12

```
Select s.StaffID, StaffName, datediff(EndDateTime,StartDateTime) as MaximumNumberOfDays,
TourCost, round(TourCost*1.027, 2) as UpdatedTourCost
from Staff s
join ROSTER r
On s.StaffID=r.StaffID
join SCHEDULE sc
On sc.ScheduleID=r.ScheduleID
join CRUISE c
On c.CruiseID=sc.CruiseID
join TOUR t
On t.CruiseID=c.CruiseID
where TourType= 'Business';
```

Task-13

```
select c.CruiseID, TourCode, TourName, TourCost, TourType, a.LocationName as
SourceLocationName, b.LocationName as DesLocationName from TOUR t
join Schedule sc
On t.CruiseID=sc.CruiseID
join CRUISE c
On sc.CruiseID=c.CruiseID
Join ROUTE r
On r.RouteID=c.RouteID
Join LOCATION a, LOCATION b
Where (r.SourceLocationCode=a.LocationCode
and r.DesLocationCode=b.LocationCode)
```

And TourCost>250
And (month(StartDate)=01
or year(StartDate)=2020 or year(StartDate)=2022);

Task-14

Write a query to print the names of the service dock that have had a cruise with more than one
source location.*/

select ServiceDockName
from servicedock sd
join service s
On s.ServiceDockID=sd.ServiceDockID
join BOOKING b
On b.VesselID=s.VesselID
join CRUISE c
On c.CruiseID=b.CruiseID
join ROUTE r
On r.RouteID=c.RouteID
Having count(SourceLocationCode)>1;   -- servicedock,service, booking, cruise,
sourcelocation(route) problems arising, ust 1 result

select ServiceDockID, s.VesselId
from SERVICE s
JOIN booking b
on b.VesselID=s.VesselID;

Task-15

Select c.CruiseID, CruiseName, NumOfDays, TourName
from CRUISE c
Inner Join TOUR t
on c.CruiseID=t.CruiseID
Where NumOfDays>10
And TourCode is not Null
Group by CruiseID;

Task-16

Select round(avg(TourCost),0) as AverageCostOfEarnings
from TOUR t

```
join SCHEDULE sc
On sc.CruiseID=t.CruiseID
join ROSTER r
On r.ScheduleID=sc.ScheduleID
Where month(r.EndDateTime)>'09'
and year(r.EndDateTime)='2022';
```

Task-17

```
Select s.StaffName, m.StaffName as ManagerName, CruiseName
from STAFF s
join STAFF m
On s.ManagerID=m.StaffID
join ROSTER r
On s.StaffID=r.StaffID
join SCHEDULE sc
on sc.SCHEDULEID=r.ScheduleID
join CRUISE c
on sc.CruiseID=c.CruiseID
Where time(StartDateTime) between '12:00:00' and '15:00:00'
and time(EndDateTime) between '06:00:00' and '12:00:00';
```

Task-18

```
Select c.CruiseID, CruiseName, SourceLocationCode, a.locationName as
SourceLocationName, DesLocationCode, b.locationName as DesLocationName
from Location a
join ROUTE r
On a.LocationCode=r.SourceLocationCode
join LOCATION b
On b.LocationCode=r.DesLocationCode
Join CRUISE c
On c.RouteID=r.RouteID
Where a.LocationName= 'Sydney'
or b.LocationName= 'Sydney';
```

Task-19

```
Select year(EndDateTime) as Year, StaffPay as AvgSalaryOfStaffPerYear, StaffName
from STAFF s
join ROSTER r
On s.StaffID=r.StaffID
Group by StaffName
```

Having StaffPay<(select avg(StaffPay)
        from STAFF);

Task-20

Select count(c.CruiseID) as CruisePerServiceDock, ServiceDockName, count(st.StaffID) as
StaffPerServiceDock
from SERVICEDOCK sd
JOIN SERVICE s
On sd.ServiceDockID=s.ServiceDockID
 join VESSEL v
On s.VesselID=v.VesselID
 join BOOKING b
On b.VesselID=v.VesselID
join CRUISE c
On b.CRUISEID=c.CRUISEID
 join SCHEDULE sc
On sc.CRUISEID=c.CRUISEID
join ROSTER r
On r.ScheduleID=sc.ScheduleID
Join STAFF st
On st.StaffID=r.StaffID
Where st.StaffName not like '% E%'
Group by ServiceDockName;